GENEVA STEEL
P.O. BOX 2500
PROVO, UTAH 84603
TELEPHONE: (801) 227-9000
FAX: (801) 227-9090

Keigley Quarry
RFD #1 Box 20-B
Santaquin, Utah 84655

Keigley (227-9782)

19 February, 1988

Mr. Lowell P. Braxton
Administrator
Mineral Resource Development
and Reclamation
Departmant of Oil, Gas, & Mining

Dear Mr. Braxton:

We appreciate your favorable review of the variances for the high wall and the impoundment in our pits at Keigley Quarry.

As in Section V, Item 3(b), we are submitting a new map, #Y6669-A, for your review. By removing a portion of the waste dump as production, in an orderly and planned manner we will be able to develop a two level dump that would allow us to meet the 26½ degree slope you desire. This would provide the desired slope stability and erosion control for successful revegetation. The only problem that we could encounter would be where an outcrop or slope of the original ground is steeper than 26½ degrees. We would request, at that time, an exception to the slope requirement for the exact area involved, as we do not feel it would be prudent to do the required drilling, blasting, etc., to reduce the profile to less than the original ground profile.

Item 3(c) - Soil borrow would also be graded to less than a 26 degree slope and would be seeded with the approved seed mix. This would be a disturbed area of about 22 acres and would have a reclamation cost of about $11,000.00. $500.00 x 22 = $11,000.00.

Confidential information would include size of deposits area and volumes of materials mined as well as references to reserves.

Section VII, Surety, Page 10 (Rule M-5) forms were received 2/2/88, and are in the process of being addressed.

Thank you for your consideration.

Sincerely,

Roy Benson

Roy Benson
Area Manager-Keigley Quarry
and Iron Ore Mines
Geneva Steel
P.O. Box 20-B, RFD #1
Santaquin, Utah 84655

File

STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Norman H. Bangerter, Governor
Dee C. Hansen, Executive Director
Dianne R. Nielson, Ph.D., Division Director

355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

December 12, 1987

Mr. Roy Benson
Area Manager, Keigley Quarry
and Iron Ore Mines
Geneva Steel
P.O. Box 20-B, RFD #1
Santaquin, Utah 84655

Dear Mr. Benson:

Re: Initial Review of Mining and Reclamation Plan, Keigley Quarry, M/049/001, Utah County

The Division has completed its review of your Mining and Reclamation Plan received November 30, 1987. While the proposed plan is generally acceptable, several areas of the application require modification before the Division can proceed with tentative approval.

The following review comments are referenced back to the page and question number of your original application. The rule number in parentheses references the section of the Mined Land Reclamation Act Rules addressed by each question.

Section VI, Variances, page 9 (Rule M-10)

A highwall variance for the north walls is hereby granted. The highwalls have shown themselves to be stable over the past 30 years and there does not appear to be a practical means to reduce the 60 degree angle.

An impoundment variance for the pit floors is hereby granted. Surface runoff water routed to the pit floors is ephemeral in nature and ponded water is rapidly lost to seepage and evaporation. No adverse impacts to local groundwater systems are anticipated.

Section VII, Surety, Page 10 (Rule M-5)

Reclamation of the topsoil borrow area and the waste disposal area should be included in the reclamation estimate. All unit costs should be justified.

The enclosed surety policy has a section titled "Calculating the Amount of Surety". These guidelines should be used in preparing the reclamation estimate (note: the proposed surety policy is still under review by the Board of Oil, Gas and Mining, and there may be changes made to the policy before it is finalized). An annual inflation factor of two percent is currently being used.

Section V, Reclamation Plan, pages 7-9 (Rule M-10)

Item 3(b) - Backfilling and Grading - The dump configuration shown in drawing No. Y-6669, Typical Cross Section, Dump Regrading, Keigley Quarry, is unacceptable for final reclamation. Given the possibility that a major portion of the dump may not be consumed for processing as projected, Geneva must provide a written commitment to reduce the dump faces to a gentler slope. The Division recommends regrading the dump faces and all other disturbed areas to a 2(H):1(V) slope (26 1/2 degrees) or less in order to provide for erosion control, slope stability, and successful revegetation.

Item 3(c) - Soil Material Replacement. The topsoil borrow area should be specifically included in the area to be revegetated.

Confidential Information, page 10.

The application indicates that confidential information relating to the location, size, or nature of the deposit is enclosed. Please identify the material you wish to have protected as classified so that we may secure it in a separate file.

Please address the above concerns before January 29, 1988. Thank you for your cooperation in this permitting matter. Should you have any questions or concerns, please contact me or Dave Wham.

Sincerely,

L. P. Braxton

L. P. Braxton
Administrator
Mineral Resource Development
and Reclamation Program

0851R, 96
cc: D. Wham
F. Filas

FORM MR-MO
(Revised 10/87)

FOR DIVISION USE ONLY
File #: M / /
Date Received: / /
Date Approved: / /
DOGM Lead:

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
Telephone: (801) 538-5340

NOTICE OF INTENTION TO COMMENCE LARGE MINING OPERATIONS

The informational requirements in this form are based on provisions of the Mined Land Reclamation Act, Title 40-8, Utah Code Annotated 1953, General Rules and Rules of Practice and Procedures.

This form applies only to mining operations which disturb or will disturb greater than five acres at any given time.

"MINING OPERATIONS" means those activities conducted on the surface of the land for the exploration for, development of, or extraction of a mineral deposit, including, but not limited to, surface mining and the surface effects of underground and in situ mining, on-site transportation, concentrating, milling, evaporation, and other primary processing.

"Mining operation" does not include: the extraction of sand, gravel, and rock aggregate; the extraction of oil and gas as defined in Chapter 6, Title 40; the extraction of geothermal steam; smelting or refining operations; off-site operations and transportation; or reconnaissance activities which will not cause significant surface resource disturbance or involve the use of mechanized earth-moving equipment such as bulldozers or backhoes.

PLEASE NOTE: If extra space is required to complete a section, please attach additional sheets and include cross-referenced page numbers as necessary. The operator may submit this information on an alternate form, however the same or similar format must be used.

0899R

I. GENERAL INFORMATION (Rule R613-004-104)

1. Mine Name: KEIGLEY QUARRY

2. Mineral(s) to be Mined: LIMESTONE & DOLOMITE

3. Name of Applicant or Company: GENEVA STEEL
Corporation (XX) Partnership ( ) Individual ( )

4. Permanent Address: P.O. BOX 2500
PROVO, UTAH 84603

5. Company Representative (or designated operator):
Name: ROY BENSON
Title: AREA MANAGER
Address: BOX 20-B, RFD #1 , SANTAQUIN, UTAH 84655
Phone: 801-465-2532

6. Location of Operation:
County(ies) UTAH
Township: 9S Range: 1E Section: 15,22,23,26,27
Township: _____ Range: _____ Section: _____
Township: _____ Range: _____ Section: _____

7. Ownership of the land surface: Private (Fee), Public Domain (BLM), National Forest (USFS), State of Utah or other:

Name: GENEVA STEEL Address: BOX 20-B,RFD #1,SANTAQUIN,UTAH 84655
Name: _____ Address: _____
Name: _____ Address: _____
Name: _____ Address: _____

8. Owner(s) of record of the minerals to be mined:

Name: GENEVA STEEL Address: P.O. BOX 2500, PROVO,UTAH 84603
Name: JOSEPH A. CANNON Address: 3919 N. RIVERWOOD DRIVE,PROVO,UTAH 84604
Name: CHAIRMAN OF BOARD Address: _____
Name: _____ Address: _____

9. Have the above owners been notified in writing? Yes XX No ____.
If no, why not? _____

10. Does the operator have legal right to enter and conduct mining operations on the land covered by this notice? Yes XX No ____.

II. MAPS (Rule R613-004-105)

1. Base Map

A complete and correct topographic base map (or maps) with appropriate contour intervals must be submitted with this notice which show all of the items on the following checklist. The scale should be approximately 1 inch = 2,000 feet (preferably a USGS 7.5 minute series or equivalent topographic map where available) showing the location of lands to be affected in sufficient detail to permit calculation of proposed surface disturbance.

Map Checklist

Please check off each section as it is drawn on the map(s). Does the map show:

(a) Property boundaries of surface ownership of all lands which are to be affected by the mining operations; YES

(b) Perennial streams, springs and other bodies of water, roads, buildings, landing strips, electrical transmission lines, water wells, oil and gas pipelines, existing wells or boreholes, or other existing surface or subsurface facilities within 500 feet of the proposed mining operations; YES

(c) Proposed route of access to the mining operations from nearest publicly maintained highway (Map scale appropriate to show access); YES

(d) Known areas which have been previously impacted by mining or exploration activities within the proposed land affected; YES

(e) Acreages proposed to be disturbed or reclaimed each year (or other suitable time period. YES

2. Surface Facilities Map

A surface facilities map shall be provided at a scale of not less than 1" = 500'. This map is located in the confidential file. FF

Map Checklist

Please check off each section as it is drawn on the map. Does the map show:

(a) Proposed surface facilities, including but not limited to buildings, stationary mining/processing equipment, roads, utilities, power lines, proposed drainage control structures, and the location of topsoil storage areas, overburden/waste dumps, tailings or processed waste facilities, disposal areas for overburden, solid and liquid wastes, and wastewater discharge, treatment and containment facilities; YES

SEE ATTACHMENT

(b) A border clearly outlining the extent of the surface disturbed area proposed to be affected by mining, and the number of acres proposed to be affected; YES

(c) The location of known test borings,pits, or core holes. YES

3. Additional Maps

Additional maps and drawings may be required as applicable in accordance with Rule R613-004-105.3.

III. OPERATION PLAN (Rule R613-004-106)

1. Acreage to be disturbed:

Minesite (operating, storage, disposal areas, etc.):	350
Access/haul roads/conveyors:	35
Associated on-site processing facilities:	15
Total:	400

2. Describe methods and procedures to be employed for mining, on-site processing and concurrent reclamation.

OPEN PIT, DRILLING, BALSTING, HAULING, CRUSHING, LOADING & SHIPPING OF LIMESTONE AND DOLOMITE PRODUCTS.

ALL AREAS ARE CONSIDERED ACTIVE. THEREFORE, NO RECLAMATION CAN BE ACCOMPLISHED AT THIS TIME.

3. Depth to groundwater (if known) 200 ft.

4. Thickness of soil material to be stockpiled. NONE inches
Area from which soil material can be salvaged NONE acres
Volume of soil to be stockpiled NONE cu. yds.
(cross reference with item IV-17)

5. Thickness of overburden ALL AREAS HAVE A HISTORY OF MINING. ALL AREAS ARE PRESTRIPPED.

6. Thickness of mineral deposit _____ ft. ✓ see confidential file FF

7. Volume of refuse, tailings, and processing waste stockpiles. 10,000,000 cu. yds. currently in place.

8. Acreage of tailings ponds and water storage ponds to be constructed. NO acres

9. Describe how topsoil or subsoil material will be removed, stockpiled and protected. TOPSOIL VARIES FROM 0" TO 2" THICK. WILL BE PURCHASED FROM OUTSIDE SOURCE OR MOVED FROM AREA MARKED ON MAP NOW CLAIMED BY GENEVA STEEL.

10. Describe how overburden material will be removed and stockpiled. OVERBURDEN ALREADY REMOVED.

11. Describe how tailings, waste rock, rejected materials, etc. will be disposed of. CONSUMED. WASTE DUMPS ARE ALREADY IN PLACE AND WILL BE REDUCED DUE TO CHANGE IN SPECS. FOR GENEVA STONE.

12. Potentially toxic materials must be analyzed for toxicity. Describe the nature of any toxic materials which will be used, encountered, or generated onsite (See Rule R613-001-123). NO TOXIC MATERIALS EXIST.

Specify analyses to be conducted on these materials. NONE

NOTE: The Division may stipulate additional analyses.

13. For each tailings pond, sediment pond, or other major drainage control structures, attach design drawings and typical cross-sections.

14. Describe any proposed effluent discharge points (NPDES) and show their location on the map provided under Rule R613-004-105.2. Give the proposed discharge rate and expected water quality. Attach chemical analyses of such discharge if available ALL RAIN AND SNOW WATER RUNS INTO QUARRY AREA. NO WATER LEAVES THE PROPERTY.

15. Vegetation - The operator is required to return the land to a useful condition and reestablish at least 70 percent of the premining vegetation ground cover (as measured on site before mining or on similar adjacent areas if already mined).

The ground cover percentage figure is determined by sampling and averaging the vegetation type(s) on the areas to be mined (see attachment I for suggested sampling methods).

(a) Vegetation Survey - The following information needs to be completed based upon the vegetation survey:

Sampling method used MR. FRANK JENSEN OF D.O.G. & M., CONDUCTED SURVEY.

Number of plots or transects -

Ground Cover	Percent
Vegetation (perennial grass, forb and shrub cover)	20
Litter	10
Rock/rock fragments	10
Bare ground	60
	100%

Revegetation Requirement - 70 percent of above vegetation figure) ~~20~~ 14 % FF

List the four (4) predominant perennial species of vegetation growing on the area.

CLIFF ROSE	BIG SAGE
BLUE BUNCH WHEAT GRASS	YELLOW BRUSH

(b) Photographs - The operator may submit photographs (prints) of the site sufficient to show existing vegetation conditions. These photographs should show the general appearance and condition of the area to be affected and may be utilized for comparison upon reclamation of the site. Photographs should be clearly marked as to the location, orientation and the date that the pictures were taken.

16. Soils - The plan shall include an order 3 Soil Survey (or similar) and map. This information is needed to determine which soils are suitable for stockpiling for revegetation. This soil data may be available from the local Soil Conservation Service office, or if on public lands, from the land management agency. The map needs to be of such scale that soil types can be accurately determined on the ground (see attachment I).

(a) Each soil type to be disturbed needs to be field analyzed for the following:

Depth of soil material	1" inches
Volume (for stockpiling)	- cu. yds.
Texture (field determination)	
pH (field determination)	PH 7-8

(cross reference with item IV - 5)

TOP SOIL IS PRACTICALLY NON EXISTANT AND WILL NEED TO BE HAULED IN. MR. JENSEN SUGGESTED ABOUT 1 FOOT OF SOIL.

(b) Where there are problem soil areas (as determined from the field examination) laboratory analysis may be necessary for some or all of the following parameters:

Electrical Conductivity
Sodium Adsorption Ratio
Saturation %
Organic matter percentage
Available P
Available $N\text{-}NO_3$
pH (laboratory)
Texture (laboratory)

HAULED IN

NOTE: Soil samples to be sent to the laboratory for analysis need to be about one pint in size, properly labeled, and in plastic bags. Each of the soil horizons on some sites may need to be sampled.

17. Provide a narrative description of the geology of the area and/or a geologic cross section. DOLOMITIC LIMESTONE OF ABOUT 6 DIFFERENT FORMATIONS. THE BEDDING IS EAST TO WEST AND DIPS SOUTH AT ABOUT 60 DEGREES. LIMESTONE ON THE NORTH; DOLOMITE ON THE SOUTH.

IV. IMPACT ASSESSMENT (Rule R613-004-108)

Please provide a general narrative description identifying potential surface and/or subsurface impacts. Where applicable, this description should include surface and groundwater systems, species of high interest or their critical habitats, existing soil resources for reclamation, slope stability, erosion control, air quality, and public health and safety.

SURFACE WATER FROM STORMS DRAIN INTO PIT AREA. GROUND WATER STRATAS ARE 200 ft. BELOW PRESENT OPERATIONS. CHUCKAR PARTRIDGE AND MULE DEER FREQUENT THE AREA WITH NO APPARENT NEGATIVE IMPACT.

V. RECLAMATION PLAN (Rule R613-004-109)

1. List current land use(s) other than mining: WILDLIFE. SOME HUNTING OF MULE DEER AND CHUCKAR.

2. List future post-reclamation land-use(s) proposed: WILDLIFE. SOME HUNTING.

3. Describe each phase of reclamation of the minesite in detail under the following categories:

(a) Disposal of Trash

Describe how buildings, foundations, trash and other waste materials will be disposed of. FOOTINGS AND FOUNDATIONS WILL BE BROKEN UP AND BURIED. METALS WILL BE RECYCLED AT GENEVA. WASTE WILL BE BURIED.

(b) Backfilling and Grading

Describe equipment and methods to be employed, amount of materials to be moved and final disposition of any stockpiled materials. TRACTORS WILL BE USED TO CONTOUR, SCARIFY, AND REGRADE WASTE AREAS. REGRADING WILL BE TO ~~40~~ 26.5° DEGREES OR LESS. (see 2-19-88 letter)

(c) Soil Material Replacement

In order to reestablish the required ground cover, one to two feet (depending on underlying material) of suitable soil material usually has to be redistributed on the areas to be reseeded. If the stockpiled soil isn't sufficient for this, soil borrow areas will need to be located.

How much soil material is planned to be put on the area to be reseeded? 10" to 12" inches

Where will this material come from? NOTE MAP. KEIGLEY QUARRY HAS MINING CLAIMS OF ADJACENT PROPERTY TO THE NORTH WHERE SOIL IS 6 ft. to 8 ft. DEEP.

How will it be transported and spread? HAULAGE TRUCKS OVER EXISTING ROADS.

(d) Seed Bed Preparation

Describe how the seedbed will be prepared and equipment to be used. DUMPED AND SPREAD WITH TRACTOR AND GRADER. RIPPING WILL BE USED TO LOOSEN ROADS AND PACKED AREAS.

(The Division recommends ripping or discing six inches deep)

(e) Seed Mixture - List the species to be seeded:

Species Name	Seeding Rate (lbs Pure Live Seed/Acre)
YELLOW BRUSH	2.0 lbs.
BIG SAGE	0.5 lbs.
CLIFF ROSE	0.5 lbs.
ALFALFA (arid resistant)	6.0 lbs.
WHEAT GRASS	6.0 lbs.
YELLOW CLOVER	5.0 lbs.

(The Division recommends seeding 20 lbs./acre of native and introduced adaptable species of grass, forb, and browse seed and will provide a specific species list if requested)

(f) Seeding Method
Describe method of planting the seed. DRILL SEED THE LARGE AREAS AND BROADCAST ON ISOLATED AREAS.

(The Division recommends planting the seed with a rangeland or farm drill, or if broadcast seeded, harrow or rake the seed 1/4 to 1/2 inch into the soil. Fall is the preferred time to seed)

(g) Fertilization
Describe fertilization method and rate. BROADCAST 200 lbs. DIAMMONIUM PHOSPHATE.

(The Division recommends broadcast fertilization at the time of seeding of 200 lbs./acre of diammonium phosphate 18-46-0)

(h) Other Revegetation Procedures
If other reclamation procedures, such as mulching, irrigation, etc., are planned, describe them. NONE.

VI. VARIANCE (Rule R613-004-111)

Any planned deviations from Rule R613-004-007 (Operating Practices) or Rule R613-004-010 (Reclamation Practices) must be identified below.

Rule Number	Title/Category
Rule M-10-(5)	HIGH WALL ON NORTH OF LIMESTONE & DOLOMITE PITS.
Rule M-10-(3)	WATER IMPOUNDMENT IN PIT.

For each variance requested, attach a narrative statement describing and delineating the area proposed to be affected by the variance, justifying the need for the variance, and discussing alternate methods or measures to be utilized.

VII. SURETY (Rule R613-004-112)

A Reclamation surety must be provided to the Division prior to final approval of this application. In calculating this amount, the Division will consider the following major steps:

1) Clean-up and removal of structures.
2) Backfilling, grading and contouring.
3) Soil material redistribution and stabilization.
4) Revegetation (preparation, seeding, mulching)
5) Safety and fencing.
6) Monitoring.

To assist the Division in determining a reasonable surety amount, please attach a reclamation cost estimate which addresses each of the above steps.

VIII. SIGNATURE REQUIREMENT

I hereby certify that the foregoing is true and correct.

Signature of Operator: Roy Benson

Name (typed or print): Roy Benson

Title of Operator: Area Manager Knigley Quarry and Iron Ore.

Date: 11/23/87

PLEASE NOTE:

Section 40-8-13(2) of the Mined Land Reclamation Act provides for maintenance of confidentiality concerning certain portions of this report. Please check to see that any information desired to be held confidential is so labeled and included on separate sheets or maps. Only information relating to the location, size or nature of the deposit may be protected as confidential.

Confidential Information Enclosed: (X) Yes ( ) No

Attachment I

Vegetation Cover Sampling

Vegetation cover sampling determines the amount of ground that is covered by live vegetation. It is divided into four categories which equal 100 percent. They are:

Vegetation - This is the live perennial vegetation. Care should be taken to avoid sampling in disturbed areas that have a large percentage of annual or weedy vegetation, such as cheatgrass and russian thistle.

Litter - This is the dead vegetation on the ground, such as leaf and stem litter.

Rock/rock fragments - This is the rock and rock fragments on the soil surface.

Bare ground - This is the bare soil which is exposed to wind and water erosion.

Cover Sampling - The following methods are acceptable:

Ocular Estimation

This method visually estimates the percentage of ground covered in a plot by the four components. Plot size is usually a meter or yard square or a circular plot 36 inches in diameter. Ten to 20 plots should be randomly sampled in each major vegetation type.

Line Intercept

Percent ground cover is obtained by stretching a tape measure (usually 100') over the ground and then recording which of the four components is under each foot mark. At least two of these transects should be randomly laid out and measured in each major vegetation type.

Soil Survey and Sampling Methods

If a SCS or land management agency soil survey is not available, the operator shall delineate all soil types that will be disturbed by mining on a map. Each soil type shall be sampled for its characteristics and inherent properties. Representative sampling locations should have similar geologic parent material, slopes, vegetative communities and aspects. The sampling locations should be representative of the soil type and be identified on the map. Sampling shall be at a minimum of one (1) for each soil type disturbed.

The soil map needs to be of sufficient scale so that each soil type can be accurately located on the ground.

Natural occuring revegetation,upper dump, looking West. 3/4" material on surface.

Natural occuring revegetation, upper dump to lower dump, looking East.

High wall North side of Dolomite Pit.
Note dip of bedding plane

High wall North side of Limestone Pit.
Note bedding plane.
Note small puddles of water in lower
left from recent storm.

November 23
1987

Mr. Lowell P. Braxton
Director of Dept. of Oil, Gas and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180

Dear Lowell,

The narrative for Form MR-MO Keigley Quarry Act/ is as follows: At Keigley Quarry, mining of any significance started about 1942. Dolomitic limestone is quarried from an open pit by drilling and blasting, then loaded with diesel or electric shovels into 35 ton haulage trucks and hauled to a mill for processing through a series of crushers and screens. The stone is then loaded through the tipple load-out into railroad cars for shipment to Geneva Steel at Orem, Utah where it is consumed in blast furnaces and open hearth furnaces in the steelmaking process.

Mining practices back at that early date were well established, and up to the 1976 Mining Reclamation Act, about 80% of the over burden material had already been removed and many of the problems we face today were already in a state of partial creation. Historically, in the past, the control cutoff for Geneva was 2.5% SI02. This was established when the iron ore pellet SI02 was 8.0%. Currently, the source of pellets contain 3 to 4% SI02. Therefore, material that once was considered overburden can now be consumed and used for products to Geneva. We are currently using approximately 3/4 of material from the overburden dumps, and 1/4 of our material comes from mining in the pits.

It is noteworthy to mention that the areas where we have the greatest reclamation problems are the very areas we are concentrating our production from, so as to make it easier for us in our reclamation endeavors.

We do have two problem areas where we need to request variances:

Variance # 1 - Rule M-10-(5) A high wall variance on the North walls of both the dolomite and limestone pits which exceed the 45° slope angle due to the strike of the bedding plane of the deposit. It dips to the South at a 60° angle and Catch Berms will not stay in place because of this. Currently, the high walls are about 150 feet high.

Variance # 2 - Rule M-10-(3) Impoundment variance may be necessary due to rain water and snow melt. This runs to the bottom of the pit and puddles in localized areas, but will seep away or evaporate in a short time (one to two weeks). Ground water does not appear for about another 200 feet, so if there is another problem with this it will be many years down the road.

With current practices of processing overburden dumps this could greatly reduce the reclamation liability as far as contouring and stabilizing dumps. When things progress in an area where activity would no longer take place, it would be a great advantage to us to start reclamation in that area.

Top Soil

It was suggested by the Department of Oil, Gas and Mining that top soil requirement did not need to be 100% fine loamy material.

Currently, the roads and tops of the disposal areas are covered with 6 to 8 inches of -3/4" reject material which does support some natural occuring plant life (yellow brush). With this material we would intend on placing another 6 to 8 inches of top soil to establish a seed bed.

There are two sources of loamy top soil:

(1) an area currently under our control by un-patented mining claims noted on the map has top soil 6' to 8' deep.

(2) Strawberry Canal traverses the property on 3 sides and has a series of Settling Ponds. These are dredged out and silt is available to haul away. These sources should supply us with an abundant close source of Top Soil.

CALCULATING OF RECLAMATION COSTS

Determining that due to slope inside of the Pit where materials can not be placed, 180 acres would be able to be seeded. Calculations are as follows:

180 Acres X 43,500 Cu/Ft. per acre divided by 2 (6') divided by 27 = 145,000 Cubic yards of top soil to be hauled in.

145,000 Cubic yards X $.75 per Cubic Yard = $108,750 plus an additional spreading cost of $35,000.00

Contouring and stabilizing of side slopes with a D-9 Cat is estimated to take 480 hours at $100.00 per hour = $48,000.00

Scarifying with a D-9 Cat 130 hours at $100 an hour = $13,000.00.

Seed Costs are as follows;

Black Sage $18.00 lb.	2 lbs per acre	$36.00
Yellow Brush 5.00 lb.	2 lbs per acre	10.00
Cliff Rose 18.00 lb.	2 lbs per acre	36.00
Yellow Clover .65 lb.	2 lbs per acre	1.30

Bunch Wheat Grass	1.85 lb.	5 lb per acre	$9.25
Crested Wheat Grass	1.78 lb.	5 lb per acre	8.90
Alfalfa (Laydak)	1.65 lb.	2 lb per acre	3.30

Using the Seed Mix at 22 lb. per Acre Total Cost $104.75 per acre

$104.75 per acre times 180 = $19,000.00 (for seed)

Fertilizer cost at 200 lb per acre at $10.00 per 100 lb - $3,600.00

Building removal and disposal would be on site with an estimated removal of $20,000.00.

TOTAL COST

Top Soil	$108,750.00
Top Soil Spread	35,000.00
Contouring	48,000.00
Scarifying	13,000.00
Seed mix	19,000.00
Fertilizer	3,600.00
Building Removal	20,000.00
Total Bonding Liability	$247,350.00

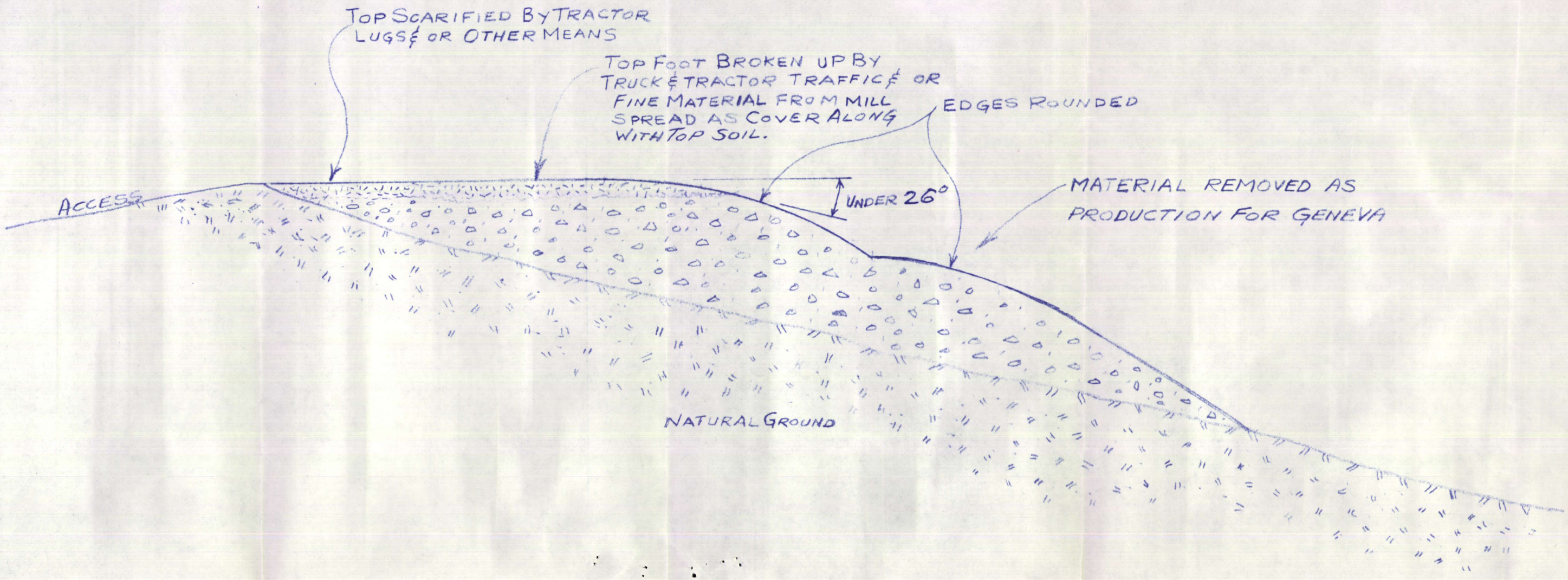
Thank you for your consideration.

Sincerely,

Roy Benson

Roy Benson
Area Manager Keigley Quarry
and Ore Mines

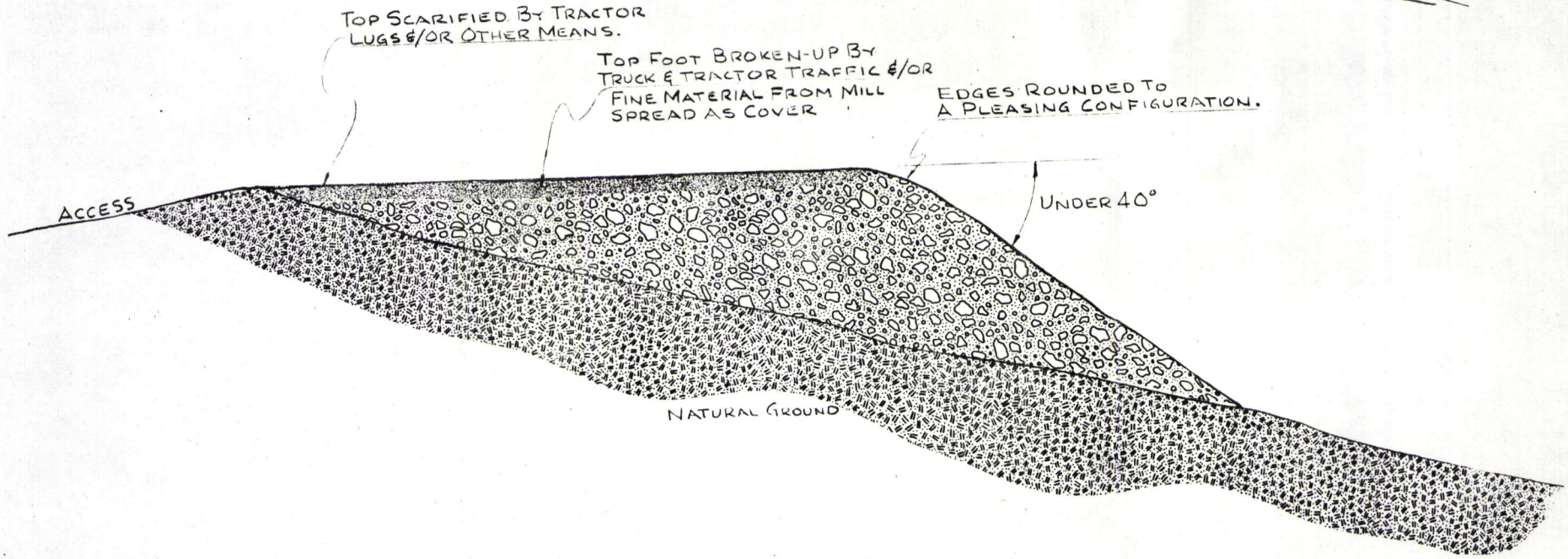
TYPICAL CROSS SECTION
DUMP REGRADING
KEIGLEY QUARRY



GENEVA WORKS U.S. STEEL CORPORATION	DRAWN ZST 1-19-88 CHECKED DESIGN ENG. DMH 3-29-77 APPROVED	KEIGLEY QUARRY TYPICAL CROSS SECTION	SCALE:	DRAWING No. Y-6669-A

TYPICAL CROSS-SECTION DUMP REGRADING KEIGLEY QUARRY

OUT DATED CONFIGURATION



REVISIONS

WESTERN ORE OPERATIONS
UNITED STATES STEEL CORPORATION
Engineering Department

TITLE

DRAWN BY D.M.H. DATE MAR 29, 77
CHECKED BY _____ DATE _____
ENG. NO. _____

DRAWING NO.
Y-6669